REMARKS/ARGUMENTS

The Office Action mailed April 9, 2004 has been reviewed and carefully considered. Claims 1 and 5 have been amended. Claims 1-10 are pending in this application, with claims 1, 5, and 9 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

Claims 1-8 stand rejected under 35 U.S.C. §103 as unpatentable over U.S. Patent No. 6,097,700 (Thornberg) in view of JP 10 271059 (JP '059) and in view of allegedly well known prior art.

Claims 9-10 stand rejected under 35 U.S.C. §103 as unpatentable over Thornberg in view of JP '059.

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to a method and device for controlling delays in a cellular telecommunications network. The inventive method and system are based on a hierarchical structure of delay controlling entities which communicate only with entities above or below them in the hierarchy (see page 4, lines 12-14 of the specification). In the downlink direction, an entity receiving data, such as a base station or a splitting unit, sends a timing command to the entity sending the data, if the data is received too early or too late, whereafter the sending entity may adjust the sending time of the data (page 4, lines 14-20). The same reporting and adjusting process may be repeated through all levels of the control hierarchy. Similarly, in the uplink direction a higher level receiving entity receiving data from a lower level entity may command the lower entity to adjust the sending time if the data is received too early or too late.

According to Fig. 2 and the description on page 6, line 30 to page 7, line 14, a combining unit (CU) 33 is arranged between a protocol control block (PCB) 32 and a base station (BS) 20 and message is sent from the PCB 32 to the BS 20. If the BS 20 receives a message late, it sends a timing adjustment request to the CU 33 and the CU 33 adjusts the time it sends the data (page 6, lines 35-38). Similarly, if the CU 33 receives a message late, it sends a timing adjustment request to the PCB 32 and the PCB 32 adjusts the time that the PCB 32 sends the data (page 7, lines 7-12). Accordingly, the CU 33 is capable of adjusting the time it sends data in response to a timing adjustment request received from a following node in the data stream (i.e., the BS 20) and is capable of sending a timing adjustment request to a preceding node (i.e., the PCB 32).

Independent claim 1 has been amended to recite, "at least one node is functional as said at least one first node in view of a preceding one of said nodes preceding said at least one node in the uplink direction in the network structure, and said at least one node is functional as said at least one second node in view of a following one of said nodes following said at least one node in the uplink direction in the network structure".

Independent claim 5 has been amended to recite "at least one node is functional as said at least one second node in view of a preceding one of said nodes preceding said at least one node in the downlink direction in the network structure, and said at least one node is functional as said at least one first node in view of a following one node of said nodes in the downlink direction in the network structure".

Independent claim 9 recites "wherein said radio network controller is arranged to send a timing adjustment command to at least one of said at least one intermediate node as a response to reception of at least one data packet from said at least one of said at least one intermediate node after a predetermined time period, and said at least one intermediate node is

arranged to send a timing adjustment command to said base station as a response to reception of at least one data packet from said base station after a predetermined time period, each timing adjustment command comprising a request to adjust a sending time of data packets".

Accordingly, independent claims 1, 5, and 9 each recite that at least one of the nodes is capable of both (1) making a timing adjustment request to a preceding node in a data stream and (2) implementing a timing adjustment request received from a following node in the data stream.

Thornberg discloses a method and system for controlling packet-switched radio channel congestion in a telecommunications system. In Thornberg, a system operator sets a maximum average time delay for packet calls (col. 2, lines 33-36). When the estimated average time delay for packet calls exceeds the maximum average time delay, lower priority packet calls are expelled (col. 2, lines 39-43). Accordingly, Thornberg sends a command for expelling lower priority packet calls when the estimated average time delay for packet calls exceeds the maximum average time delay. Thus, Thornberg defines a priority-based congestion detection and control on a shared channel. When congestion is detected, packets are admitted based on their priority. The priority-based congestion control disclosed by Thornberg fails to disclose sending a timing adjustment request from one node of the network to another which requests an adjustment of the sending time of data packets, as recited in the independent claims 1, 5, and 9.

JP '059 discloses a method in a cellular radio system in which synchronization of a transmission timing of an outgoing radio data frame is established among base stations without a GPS. Applicant has procured a computer generated translation of JP '059 which is filed in an Information Disclosure concurrently herewith. Paragraph 0004 of the translation indicates the JP '059 relates to synchronizing data transmissions from two base stations to a mobile station during a

handover of the mobile station from one base station to the other. Even if the mobile station of JP '059 is considered to send a timing adjustment request, the disclosure of JP '059 is directed only to synchronization of data received at a mobile terminal and therefore fails to teach or suggest a method or a system in which at least one of a plurality of interconnected nodes is capable of both (1) making a timing adjustment request to a preceding node on a data stream and (2) implementing a timing adjustment request received from a following node in the data stream, as expressly recited in each of independent claims 1, 5, and 9.

The Examiner further alleges that it is known in the art that functional interconnected nodes are hierarchical. Applicant can not address the validity of this argument because the Examiner has provided no evidence of this statement. However, even the examiners statement that functional interconnected nodes are hierarchical does not disclose teach or suggest a method or system in which at least one of a plurality of interconnected nodes is capable of both (1) making a timing adjustment request to a preceding node in a data stream and (2) implementing a timing adjustment request received from a following node in the data stream.

Accordingly it is respectfully submitted that independent claims 1, 5, and 9, are allowable over Thornberg in view of JP '059 and the Examiners statement of allegedly known prior art.

Dependent claims 2-4, 5-8, and 10 being dependent on each independent claims 1, 5, or 9 are deemed allowable for the same reasons expressed above with respect to independent claims 1, 5, and 9.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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